UNITED STATES DEPARTMENT OF AGRICULTURE

NRCS Natural Resources Conservation Service

Tennessee Job Sheet

PEST MANAGEMENT (595)

MANAGING PESTS INCLUDING WEEDS, INSECTS, DISEASES, AND ANIMALS

Pest Management is managing pests including weeds, insects, diseases, and animals. Pest management includes evaluating the potential impacts of pesticides on the environment. The primary approach to managing pests is Integrated Pest Management.

Integrated Pest Management (IPM) is a system approach to pest control that combines cultural/mechanical, biological, and other alternatives to chemical controls with the judicious use of pesticides. The objective of IPM is to maintain pest levels below economically acceptable levels, while minimizing negative impacts to human health and natural resources.

Guidelines

- **Identify and quantify target pests by scouting**.
- **Develop a pest management strategy as part of a conservation plan**. (Refer to NRCS Pest Management Worksheet.)
- **Determine if control of the pest is economically feasible** (economic threshold).
- **Evaluate available pest control methods.** Consider cultural/mechanical or biological controls before chemical controls.

Cultural/Mechanical Control	Biological Control	Chemical Control
• Planting and Harvest Dates • Rotations • Residue Management • Cultivation • Mowing, Pruning • Row Covers and Netting	• Predators (Ladybugs, Green Lacewings, Praying Mantis, Parasitic Wasps, Rosette Weevils, Etc.) • Pathogens (Bacillus thurigenisis, Milky Spore) • Others	• Pesticides: Herbicide – Weeds Insecticide – Insects Larvicide – Larvae Nematicide – Nematodes Rodenticide – Rodents Fungicide - Fungi

- Utilize necessary control methods:

  Prevention – Control undesirable plant hosts, maintain clean equipment, manage residue, transgenic seed, etc.

  Avoidance – Genetic resistance, crop rotation, use of trap crops, early maturing varieties, etc.

Monitoring – Scouting, surveying, trapping, diseases, sample soil, etc.

Suppression – Pesticides, bio controls, transgenic seed, tillage practices, cultivation, row spacing, mowing, cover crops, beneficial insects, resistance management, etc.

Diversify control methods to minimize pest resistance. If chemical controls are selected, contact the University of Tennessee Agricultural Extension Service, Certified Crop Advisor, or chemical dealer for pesticide recommendations.

- Evaluate the impacts of each pesticide on the environment and human health. Consider those with the lowest potential to negatively impact the environment. If a pesticide is chosen with greater toxicity or persistence, consider management techniques that avoid or reduce negative impacts. For assistance in evaluating the impacts, contact your local conservation office for help with a Windows Pesticide Screening Tools Computer Program (WIN-PST). This program is also available at http://www.wsi.nrcs.usda.gov/products/W2Q/pest/winpst.html.

- Formulate a safety plan with emergency telephone numbers for human treatment and contacts for spills. Have this information readily available at all areas where chemicals are handled.

Maintenance Items

- Follow Label Recommendations: Labels supersede all other recommendations and contain the most up-to-date information for application and safety matters. Handle pesticides with caution and wear appropriate protective clothing.

- Avoid open mixing of chemicals near a well, surface water body, or other sensitive areas.

- Prevent back-siphoning by installing backflow prevention device or air gap.

- Post signs around treated fields according to label directions and Federal, State, and local laws.

- Properly clean application equipment and dispose of rinsate and containers.

- Follow all setback requirements for environmentally sensitive areas.

- Maintain required records for restricted use pesticides. (For recordkeeping and pesticide certification, contact the Agricultural Extension Service.)

- Re-evaluate and retreat for resurgence of pests as necessary.

Management Techniques for Reducing Negative Environmental Impacts

- Maintain setback distances (areas not receiving chemical application) around water bodies, streams, sinkholes, wells, buildings, wetlands, and other sensitive areas.
- Establish vegetated filter strips that trap sediment and filter pesticides.
- Review weather reports (precipitation, wind, and temperature) before application.
- Band or split applications.
- Use lowest recommended application rate of pesticides.
- Choose chemicals with a shorter breakdown period.
- Use appropriate spray pressure nozzles to reduce drift.

For other sources of information, contact your Agricultural Extension Service, Certified Crop Advisor, chemical dealer, or the local conservation office. Additional reference publications include: U.T. PB378 – Crop Varieties; U.T. PB1061 – Soil Testing; and U.T. PB 1580 – Weed Control Manual for Tennessee (for field crops, forage crops, pasture, farm ponds, and harvest aids).